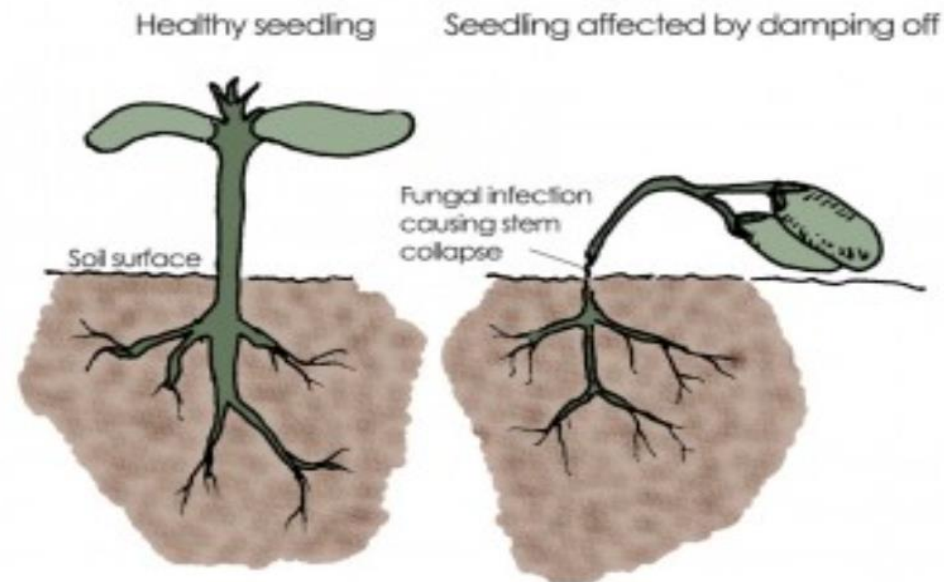


Damping off of seedlings

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Introduction

The disease damping off of seedlings affects seeds and all types of seedlings. Due to this disease rotting of the stem and root issue at and below the soil surface takes place. The plant tissues which are infected appear water soaked and mushy (लुगदी के समान)



Symptoms

- Types of infections of damping of disease are noticeable
- **Pre-emergence Symptoms** In the premergence infection stage, the sprouting seeds decay in soils and the Young seedlings rot before emergence.
- **Post emergence symptoms** in post emergence type of infection the newly emerged seedlings suddenly wilt, collapse and die from soft rot at soil line.

The infection is most prevalent when seeds germinate in cool wet soils. The Other symptoms of the disease are stunting of the plant, low vigour, yellowing of the foliage and premature fall.

Causal organism

The fungus which is the pathogen of the disease is present in the soil growing on plant debris and other organic matter as a saprophyte.

Pythium is the most common pathogen for damping off.

It belongs to **Oomycetes**.

The common species are

P. aphanidermatum* and *P. debaryanum

The mycelium of the fungus is profusely branched, coenocytic.

They may be terminal or intercalary.

The pathogen is soil borne. The pathogen enters the seed or Seedling either mechanically or by dissolving cell wall by enzymes.

Disease cycle

- Oospores are present in plant debris.
- The oospore germinates.
- It forms the germ tube.
- The germ tube enters into the seed or Seedling of the host causing infection.
- The mycelium of the fungus produces sporangia in the host.
- These sporangia produce zoospores which are biflagellate.
- The zoospores are spread by the agency of water.
- On reaching a suitable host they lose flagella and encyst and then form the germ tube. The germ tube enters into the plant and brings about infection.
- The pathogen forms mycelium within the host.
- The mycelium within the host forms gametangia.
- Plasmogamy and karyogamy takes place and oospores are again produced.
- The oospores remain in plant debris in the soil.

Control

- The favourable conditions for the disease are the presence of moisture and warm conditions.
- Best method of control is to avoid these conditions.
- **Cultural practices** which help in controlling the disease are as follows:
 1. Sanitize all seed trays.
 2. Proper soil preparation and management.
 3. Sufficient spacing between seedlings.
 4. Seeds should be planted at proper depth and optimum soil temperature.

Some **fungicides** are also used in order to control the disease for example **Captan and Ferbam**.